

## Claims

What is claimed is:

- [c1] A directory server system, comprising:  
a front-end portion adapted to connect to a client computer;  
a back-end portion with an embedded database; and  
a mapping tree portion;  
wherein the front-end portion comprises a core protocol connection responder configured to access information stored in the back-end portion, wherein the back-end portion is maintained in a logical representation by a directory information tree;  
wherein the mapping tree portion identifies a location of information stored in the back-end portion in response to a request sent by the client computer.
- [c2] The system of claim 1, further comprising:  
a graphical user interface backed by an administrative server configured to manage the directory server system.
- [c3] The system of claim 1, further comprising:  
a gateway allowing access and querying of the back-end portion from a web browser.
- [c4] The system of claim 1, further comprising:  
a plurality of database command line tools to manipulate the front-end portion and the back-end portion.
- [c5] The system of claim 1, further comprising:  
a network management protocol monitor.

- [c6] The system of claim 1, wherein the front-end portion manages communication between server-side software and a directory client program stored on the client computer.
- [c7] The system of claim 1, wherein the front-end portion functions as a daemon.
- [c8] The system of claim 1, wherein the front-end portion functions as a service.
- [c9] The system of claim 1, wherein the back-end portion comprises a plurality of back-end plug-ins for database management.
- [c10] The system of claim 1, wherein the client computer is adapted to connect to the front-end portion using an encrypted connection.
- [c11] The system of claim 9, wherein the plurality of back-end plug-ins allow a directory administrator to manage and manipulate the information stored in the embedded database.
- [c12] A directory server system, comprising:  
a front-end portion adapted to connect to a client computer;  
a back-end portion with an embedded database;  
a mapping tree portion;  
a graphical user interface backed by an administrative server configured to manage the directory server system;  
a gateway allowing access and querying of the back-end portion from a web browser;  
a plurality of database command line tools to manipulate the front-end portion and the back-end portion; and  
a network management protocol monitor;  
wherein the front-end portion comprises a core protocol connection responder configured to access information stored in the back-end portion, wherein

the back-end portion is maintained in a logical representation by a directory information tree;  
wherein the mapping tree portion identifies a location of information stored in the back-end portion in response to a request sent by the client computer.

[c13] A computer system to manage a directory server, comprising:

a processor;

a memory; and

software instructions stored in the memory for enabling the computer system under control of the processor, to perform:

receiving a Lightweight Directory Access Protocol request from a client computer to a front-end portion;

processing the Lightweight Directory Access Protocol request to create a front-end call;

sending the front-end call to a back-end portion;

processing the front-end call using a default database function to produce a result, wherein the default database function comprises a mapping tree portion to identify a location of information stored in the back-end portion in response to the Lightweight Directory Access Protocol request sent by the client computer;

passing the result to the front-end portion; and

sending the result from the front-end portion to the client computer.

[c14] A method of processing a Lightweight Directory Access Protocol request from a client computer using a directory server comprising:

sending a Lightweight Directory Access Protocol request from the client computer to a front-end portion;

processing the Lightweight Directory Access Protocol request to create a front-end call;

sending the front-end call to a back-end portion;  
processing the front-end call using a default database function to produce a result,  
wherein, the default database function comprises a mapping tree portion to  
identify a location of information stored in the back-end portion in response  
to the Lightweight Directory Access Protocol request sent by the client  
computer;  
passing the result to the front-end portion; and  
sending the result from the front-end portion to the client computer.

- [c15] The method of claim 14, further comprising:  
managing communication by the front-end portion between server-side software  
and a directory client program stored on the client computer.
- [c16] The method of claim 14, further comprising:  
managing the directory server system using a graphical user interface backed by  
an administrative server.
- [c17] The method of claim 14, further comprising:  
accessing and querying the back-end portion from a web browser with a gateway.
- [c18] The method of claim 14, further comprising:  
manipulating the front-end portion and the back-end portion with a plurality of  
database command line tools.
- [c19] The method of claim 14, further comprising:  
reporting activity to a network console workstation by a network management  
protocol monitor.
- [c20] A method of processing a Lightweight Directory Access Protocol request from a  
client computer using a directory server comprising:

sending a Lightweight Directory Access Protocol request from the client computer to a front-end portion;  
processing the Lightweight Directory Access Protocol request to create a front-end call;  
sending the front-end call to a back-end portion;  
processing the front-end call using a default database function to produce a result, wherein, the default database function comprises a mapping tree portion to identify a location of information stored in the back-end portion in response to the Lightweight Directory Access Protocol request sent by the client computer;  
passing the result to the front-end portion;  
sending the result from the front-end portion to the client computer;  
managing communication by the front-end portion between server-side software and a directory client program stored on the client computer;  
managing the directory server using a graphical user interface backed by an administrative server;  
accessing and querying the back-end portion from a web browser with a gateway;  
manipulating the front-end portion and the back-end portion with a plurality of database command line tools; and  
reporting activity to a network console workstation by a network management protocol monitor.

- [c21] An apparatus for processing a Lightweight Directory Access Protocol request from a client computer using a directory server comprising:
- means for sending a Lightweight Directory Access Protocol request from the client computer to a front-end portion;
  - means for processing the Lightweight Directory Access Protocol request to create a front-end call;
  - means for sending the front-end call to a back-end portion;

means for processing the front-end call using a default database function to produce a result,

wherein, the default database function comprises a mapping tree portion to identify a location of information stored in the back-end portion in response to the Lightweight Directory Access Protocol request sent by the client computer;

means for passing the result to the front-end portion; and

means for sending the result from the front-end portion to the client computer.